

What is claimed is:

1. A method of performing one or more of adding and removing a process in a distributed system, said method comprising steps of:
 - (1) launching a probationary member in said distributed system;
 - (2) establishing at least one communication path between said probationary member and at least one other process in said system;
 - (3) evaluating at least one criterion for promoting said probationary member to a full member; and
 - (4) performing one of promoting said probationary member to a full member and eliminating said probationary member based on the evaluation performed in step (3).
2. The method of claim 1, wherein step (3) further comprises a step of:
determining whether said at least one criterion is satisfied.
3. The method of claim 2, wherein said step (4) further comprises steps of:
promoting said probationary member to said full member in response to said at least one criterion being satisfied; and
eliminating said probationary member in response to said at least one criterion not being satisfied.
4. The method of claim 1, further comprising a step of determining whether said probationary member is replacing a mirror in said system.
5. The method of claim 4, further comprising a step of:
performing a state transfer in response to said probationary member replacing said mirror.
6. The method of claim 1, wherein said probationary member is replacing a first process in said system and step (4) further comprises a step of:
replacing said first process and promoting said probationary member to said full member in a single view change.

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1 7. The method of claim 6, wherein said step of replacing said first process and promoting
2 said probationary member further comprises a step of:
3 maintaining fault tolerance during said step of replacing said first process and promoting
4 said probationary member.

1 8. The method of claim 7, wherein said at least one criterion is related to context
2 information.

1 9. A distributed system including a plurality of processes in communication with each other,
2 said distributed system comprising:

3 a first host capable of executing a first process of said plurality of processes;

4 a second host capable of executing a second process of said plurality of processes;

5 at least one communication path connecting said first and second host; wherein

6 said second process is a probationary member evaluated using at least one criterion for
7 promoting said probationary member to a full member; and

8 said probationary member being either promoted to a full member or eliminated based on
9 the evaluation using said at least one criterion for promoting said probationary member to a full
10 member.

11 10. The distributed system of claim 9, wherein said system is operable to promote said
2 probationary member to said full member in response to said at least one criterion being
3 satisfied; and

4 said system is operable to eliminate said probationary member in response to said at least
5 one criterion not being satisfied.

1 11. The distributed system of claim 9, further comprising:

2 a third process; and

3 a fourth process; said third and fourth processes being in communication with each of
4 said processes in said system via multiple communication paths; wherein

5 said first, third and fourth processes are a fault tolerant unit in said system;

6 at least two of said first, third and fourth processes are mirrors; and

7 said probationary member is operable to replace one of said mirrors.

1 12. The distributed system of claim 11, wherein said fault tolerant unit is operable to
2 maintain fault tolerance in response to said probationary member replacing one of said mirrors.

1 13. A computer readable medium on which is embedded a program, the program executing a
2 method for performing one or more of adding and removing a process in a distributed system,
3 said method comprising steps of:

- 4 (1) launching a probationary member in said distributed system;
5 (2) establishing at least one communication path between said probationary member and
6 at least one other process in said system;
7 (3) evaluating at least one criterion for promoting said probationary member to a full
8 member; and
9 (4) performing one of promoting said probationary member to a full member and
10 eliminating said probationary member based on the evaluation performed in step (3).

1 14. The computer readable medium of claim 13, wherein said step (3) in said method further
2 comprises a step of:
3 determining whether said at least one criterion is satisfied.

1 15. The computer readable medium of claim 14, wherein said step (4) in said method further
2 comprises steps of:
3 promoting said probationary member to said full member in response to said at least one
4 criterion being satisfied; and
5 eliminating said probationary member in response to said at least one criterion not being
6 satisfied.

1 16. The computer readable medium of claim 13, wherein said method further comprises a
2 step of determining whether said probationary member is replacing a mirror in said system.

1 17. The computer readable medium of claim 16, wherein said method further comprises a
2 step of:
3 performing a state transfer in response to said probationary member replacing said
4 mirror.

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1 18. The computer readable medium of claim 13, wherein said probationary member is
2 replacing a first process in said system and step (4) in said method further comprises a step of:
3 replacing said first process and promoting said probationary member to said full member
4 in a single view change.

1 19. The computer readable medium of claim 18, wherein said step of replacing said first
2 process and promoting said probationary member further comprises a step of:
3 maintaining fault tolerance during said step of replacing said first process and promoting
4 said probationary member.

1 20. The computer readable medium of claim 19, wherein said at least one criterion is related
2 to context information.